

Pascal and Derrida Geometry, Origin and Discourse

BARRY STOCKER *Yeditepe Üniversitesi, İstanbul*

*ABSTRACT: The paper is an exploration of how Pascal and Derrida are both concerned with the consequences of not being able to find a transcendental centre for concepts. Both establish this through a discussion of the origin of geometry, and the contradictions of establishing a discourse for the pure principles of geometry. Pascal and Derrida both refer to the anxiety produced by the infinite possibilities of system and the impossibility of finding a foundation in a limited set of principles. For Pascal the question emerges in his general philosophical work *Pensées* and 'On the Spirit of Geometry'. Similarly for Derrida, what appears in his general philosophical work, also appears in a work referring to the possibility of transcendental foundations for geometry, 'Introduction to Husserl's Origin of Geometry'. For both philosophers questions arise of the contradictions of establishing basic concepts. Circularity inevitably appears, particularly with regard to 'is' and 'being'; the concepts themselves are necessarily divided between their pure existence and their empirical applications. The essential difference suggested between Pascal and Derrida is that for Pascal, basic principles can be given an explanation in 'reasons of the heart', while for Derrida contradiction is necessary, present everywhere and is irreducible to any basic principle of any kind.*

*RÉSUMÉ: L'article consiste en une exploration de la façon dont Pascal et Derrida se préoccupent des conséquences de ne pas pouvoir trouver un centre transcendantal pour les concepts. Tous deux en arrivent à ce constat suite à une discussion de l'origine de la géométrie, et des contradictions inhérentes au discours sur les principes purs de la géométrie. Pascal et Derrida renvoient tous deux à l'anxiété induite par les possibilités infinies du système et l'impossibilité d'une fondation se résumant à une suite limitée de principes. Pour Pascal, la question émerge dans ses *Pensées* et dans «De l'esprit géométrique». De façon similaire chez Derrida, la question se pose, comme dans son oeuvre générale, dans un ouvrage portant sur la possibilité de fondations transcendantales de la géométrie, Introduction à L'origine de la géométrie de E. Husserl. Pour les deux philosophes, la question se pose quant aux contradictions découlant de l'établissement de concepts fondamentaux. Une circularité est inévitable, en particulier autour du concept d'«être»; les concepts eux-mêmes sont nécessairement divisés entre une existence pure et leur applications empiriques. La différence essentielle entre les deux penseurs, c'est que pour Pascal, les principes fondamentaux peuvent être expliqués par des «raisons du coeur», alors que pour Derrida, la contradiction est nécessaire, partout présente, et irréductible à un quelconque principe.*

Pascal, *Pensées* (Brunschwig, Section II, 72):

[I]t is no good inflating [*Nous avons beau enfler*] our conceptions beyond imaginable space [*des espaces*], we only bring forth atoms compared [*au prix*] to the reality of things. Nature is an infinite sphere whose centre is everywhere and circumference nowhere. In short [*Enfin*] it is the greatest perceptible mark [*caractère sensible*] of God's omnipotence that our imagination should lose itself in that thought.

(Pascal, 1966, p. 89 [1946, p. 69])

Derrida, 'Structure, Sign and Play in the Discourse of the Human Sciences':

[*Sans doute*] By orienting and organising the coherence of the system, the centre of a structure permits the play of its elements inside the total form. And even today the notion of a structure lacking any centre represents the unthinkable itself. [...] And on the basis of [*Depuis*] this certitude anxiety can be mastered, for anxiety is invariably the result of a certain mode of being implicated in the game [*d'être pris au jeu*], of being caught by the game, of being as it were at stake in the game from the outset [*d'être comme être d'entrée de jeu dans le jeu*].

(Derrida, 1978, p. 278-279 [1967, p.409-10])

I. Introduction: The Hidden Centre

The problem of introducing geometry appears in Pascal and Derrida. The question is of the origin which establishes the principles of geometry. Pascal denies the possibility that geometrical principles themselves could be introduced by the rational method employed in geometry. For Pascal the principles of geometry are given before reason, which may reduce reason to a narrow technicism. There is a tendency to identify reason as technique and to place the basic rules employed in technique outside reason. The principles of geometry come from outside reason and provide its basis, suggesting that reason can be reduced to the technique of geometry and the deductive sciences, so that something before reason allows both reason and knowledge of other principles, and that much of what humans believe is the product of

custom, not reason. However, it is necessary to avoid any misconceptions that Pascal advocates a leap into faith outside rationality. The place of faith in Pascal might be better seen, in his more philosophical writings at least, as secondary to the attempt to understand how principles of reason are introduced and the impossibility of explicating the origin in discourse or rational reduction. The necessity of the pre-rational is not the necessity of the irrational; it is where necessary principles are put forward and where discourse reaches its limits. Those limits can be understood in relation to Derridean philosophy which looks at the irreducibility of contradiction in concepts. The grounds of geometry cannot escape the contradiction between the ideal and the factual. The grounds of geometry in Pascal are caught between the ideal nature of basic concepts and the vagueness of discourse, which can only lead to vagueness and contradiction in explaining what is already given. Derrida offers a theorisation of the relation between empirical language usage and ideal objects, rather than a condemnation of vagueness; and also offers an account of the necessity of contradiction.

The principles of a system of deductive truths and their transcendental justification, if any is offered, must have an origin where there are basic principles to introduce the system. How can there be an origin which is not in the system that uses its principles, and how can there be an origin which is not outside because the origin is necessarily before the system; how can there be an origin which is not in pure concepts, and how can there be an origin which is not expressed in concrete symbols and linguistic practice? That is the question of how to define the centre of a system: deductive or metaphysical. Pascal followed on from Descartes' modelling of reason on geometry, and the assumption that reason in the understanding is the source of all our justifiable beliefs, Derrida followed on from Husserl who tried to follow a revised form of Cartesian method.

Though Derrida has little to say directly about Pascal except for a few remarks about law in 'The Force of Law' (Derrida, 1990), he deals with a Pascalian issue: the anguish of a system without a centre. The centre, goal, essence of the system of the universe for Pascal is God, but God is everywhere and nowhere. Pascal states that the notions of infinity have removed the reality of things. An empirical thing is always exceeded by the magnitude of infinity and is always larger than the minuteness of the infinitesimal. The infinity of largeness and smallness negates the reality of any thing. The notion of God becomes that of the negation of reality in an infinite sphere with no centre. As the space is infinite and its centre unknown anything could be the centre or infinitely distant from the centre. All sense of magnitude, purpose and reality is abolished in the infinity of space. The negation of reality is expressed as opposition: the opposition between God and man; the opposition between finitude and infinitude; the opposition

within infinity between size and smallness. The oppositions are constitutive (Brunschwig II 72):

A nothing compared [à l'égard] to the infinite, a whole compared to the nothing, a middle point between all and nothing, infinitely remote from an understanding of the extremes; the end of things and their principles are unattainably hidden from him in impenetrable secrecy. (Pascal, 1966, p. 90 [1946, p.70])

The familiar chain of generalities which links particulars with universals from Plato up to the metaphysics of Descartes, Spinoza and Leibniz is impossible according to Pascal. There is the opposition between nothing and infinity, incomprehensible extremes. The first cannot be where a thing is, though it where things come from and infinity swallows up things. The end of things, part of the Aristotelian metaphysics of a thing where its essence includes final state, is indeterminate infinity, the first principle is contentless nothingness. Pascal deals with a general problem of Early Modern Philosophy, relating empirical things to the infinities of modern science, which only accepts the efficient cause from the fourfold causality of metaphysical tradition and expresses its laws in mathematical forms, not obviously containing metaphysical concepts. Derrida encounters something similar in 20th Century humanities and social science, the gap which has opened up between universal forms and perceptible content¹. Experience cannot be organised by a centre or essence, it is the intersection of laws lacking in any goal oriented definition.

Clear echoes of Pascal appear in Derrida, particularly when we consider that Derrida's first book was *An Introduction to Husserl's Origin of Geometry* (Derrida, 1989), while Pascal was the author of 'The Spirit of Geometry'. There, and in *Pensées*, he was reacting to Descartes adoption of geometrical definitions, axioms and propositions as a model of philosophical concepts and rules. The reference to anguish in Derrida suggests something comparable with Pascal's religiously oriented view of anguish, and confirmed by Derrida's articulation of his philosophy in 'Des Tours de Babel' (Derrida, 1985) and *Religion* (Derrida and Vattimo, 1998). For both Pascal and Derrida, there is a questioning of the possibility of presenting ideal objects of knowledge with a rational foundation. This effects how we define what Pascal refers to as discourse. Discourse cannot define fundamental concepts because of its natural ambiguity and the intrinsic undefinability of such concepts. Pascal's own philosophical writing is affected, the 'Spirit of Geometry' is unfinished as is *Pensées*, in an internal way as well as in the external fact that Pascal 'did not have time' to complete them. Internally the 'Spirit of Geometry' is in two parts:

the first refers to what geometry is; the second to how its truths are communicated in persuasion. The second part is a 'failure' as it is the discussion of how there cannot be rational persuasion, and leaves the suggested structure of the essay incomplete². Written in fragmentary notes on faith, illusion, contradiction, custom, force and weakness, *Pensées* is not incomplete, it is incompletable, as is the 'Spirit of Geometry'. It is a form of discourse or writing concerned with its own limitations and forcing the reader to enact the gap between the microcosm of the phrase or fragment and the macrocosm of the work as a whole. It is not a work of irrationality, it is a work which demonstrates and enacts the problems of reason and of saying what the origin could be of the principles of reason³. Its comments on judicial law note that this can only have application through force, the same applies in Pascal for metaphysical law or the law of reason. Such law can only apply to the empirical world through transcendental force. The themes of contradiction, transcendental force and their enactment through writing all anticipate Derrida and deconstruction.

II. Pascal and Philosophical Mockery

The very force of the opposing terms in Pascal derives from the opposition between their incomprehensibility and human perception, where imagination loses itself. The opposition is felt as the nothingness of the human. This extends to all acts of interpretation and philosophical argument, (Brunschwig, II 69) '[w]hen we read too fast or too slowly [*doucement*] we understand nothing' (Pascal, 1966, p. 38 [1946, p. 67]). Any interpretation is caught between the need for an instantaneous grasp of the whole and the need for the grasp of the instance within the whole in itself, confirming the image of the infinite sphere with no centre, which is beyond the capacity of imagination to realise.

The terror and the nothingness experienced in the futility of imagination, before the universe, is rooted in experience of the rationalistic universe. It is the Cartesian geometrical cosmos of infinite mathematical space which overwhelms comprehension in the capacity of imagination to produce an image. Rationalism and its model in geometry, as proposed by Descartes, destroys itself because geometry cannot be a model for reason (Brunschwig II 72), 'who can doubt [*qui doute*] that mathematics [*la géométrie*], for instance, has an infinity of infinities of propositions to expound' (Pascal, 1966, p. 91 [1946, p. 171]). Geometry generates an infinite number of propositions in a magnitude which overwhelms the capacity of the human intellect even as it seeks clarity in geometry. No image can be found of this infinity, no intellectual grasp can be put simultaneously on the propositions of geometry. They can never all be known to the human intellect (Brunschwig, IV 282):

We know the truth not only through our reason but also through our heart. It is through the latter [*cette dernière sorte*] that we know first principles, and reason, which has nothing to do with it, tries in vain to refute [*combattre*] them. [...] For knowledge of first principles, like space, time, motion, number, is as solid [*ferme*] as any derived through reason [*que nos raisonnements nous donnent*], and it is on such knowledge, coming from the heart and instinct, that reason has to depend and base all its argument [*discours*]. The heart feels that there are three spatial dimensions and that there is an infinite series of numbers, and reason goes on to demonstrate that there are no two square numbers of which one is double the other. Principles are felt, propositions proved, and both with certainty though by different means. (Pascal, 1966, p. 58 [1946, p. 170-1])

The discourse of geometry is founded on the heart and instinct, which are the only possible sources of the principles of geometry. Reason cannot demonstrate the foundations of geometry, and therefore seems relegated to the secondary discourse, dependent on the first principles felt by the heart. Reason can demonstrate propositions through methods of proof, but nothing can prove principles. The infinity of propositions which can be proved by reason is opposed to the finite principles of the heart. It is infinity which makes the universe incomprehensible in the infinite and infinitesimal scales beyond our comprehension. What can be comprehended is within the limits of what imagination can present to the mind. A place of certainty can be found in the way that heart or instinct gives a finite number of principles which can be comprehended by the self, not as what has been proved from a general system of deduction but what is known to the faculty of imagination as a limited magnitude. Nevertheless it is still what goes beyond representation in the imagination, as what is known from the heart cannot be discussed or imagined in its origin or proof. Finite and infinite sources of knowledge conflict oppose each other and neither can be given a completely knowable basis. It is the principles underlying knowledge which are the subject matter of metaphysics, so Pascal places extreme doubt on the possibility of metaphysical reason, since there is no reason where there are first principles, and therefore no reason where there is first philosophy questioning the possibility of first philosophy. There really are principles, but they are geometrical principles not anything else. Geometry is necessary to modern science, as this relies on the measurement of the movements of bodies. So

what we have is more than simply geometry, but it is other than metaphysics since it does not come from reason.

However, this argument does seem to point the way to Kantian transcendental argument (Kant, 1933), according to which concepts necessary to experience are legitimate metaphysical concepts, but not concepts with no reference to sense intuitions [BXVI-XIX, A10-A16/B24-30]. In this account geometry is dependent on the pure a priori intuition of space, before transcendental concepts [A24/B38-A25/B39]. In this Kantian reading, we are looking at a transcendental faculty in the 'heart' which synthesises intuitions in space and time with pure concepts. The heart is the productive faculty which creates the concepts or pure principles that give a structure to experience, so that there can be identifiable experiences of identifiable things.⁴

From this point of view the heart does not provide proofs within a formal system, but it does provide transcendental concepts, 'instinct'. We have the problems of how metaphysics can be applied to particulars and how there can be any kind of universal law within contingent forms of expression. These abysses are where philosophy becomes the critique of philosophy: its terms have no application and cannot be represented in sensory perception; or it is within sensory perception and particulars so cannot be universal.

The self-undermining effect of geometrical reason is extended by Pascal in his consideration of geometry and finesse in judgement (Brunschwig, I, 4):

True eloquence has no time for eloquence [*La vraie éloquence se moque de l'éloquence*], true morality has no time for morality. In other words the morality of judgement has no time for the random morality of mind [*qui est sans règles*]. For judgement is what goes with instinct [*sentiment*], just as knowledge [*les sciences*] goes with mind. Intuition [*finesse*] falls to the lot of judgement, mathematics [*la géométrie*] to that of the mind. To have no time for philosophy is to be a true philosopher [*Se moquer de la philosophie, c'est vraiment philosopher*]. (Pascal, 1966, p. 212 [1946, p. 48-9])

Philosophy has shifted from a Cartesian foundation in geometrical rules to the abyssal foundation of thought, which only misunderstands itself if it attempts to interpret itself as following geometrical method. What is outside geometry is necessarily infected by the vagueness of language, and the lack of the self-evident truths which establish geometry. Geometry itself is located in the mind, though the mind itself cannot be the origin of geometry. The mind can only follow rules of geometry and science because the most basic principles come from the heart or feeling (also referred to as instinct). The mind

houses the reason necessary to establish proofs but lacks the absolute standpoint necessary to philosophy. The opposition between mind and eloquence, or finesse, suggests the difficulties in establishing any bridge between principles and the discourse which is the only medium for expressing and explaining them. What is in the mind is without rules even though guided by the rules of geometry itself. It is because reason in the mind is defined as geometrical deduction that Pascal finds that the mind as a whole lacks rules. It is only a subset of ideas which are governed by rules, in questions where there can be deduction from axiomatic principles.

III. Pascal: Method and Definition

These questions are raised in Pascal's unfinished essay 'On the Spirit of Geometry', which invokes the spirit of certainty in geometry:

But since there are few principles of this kind and since outside of geometry, which considers only very simple figures [*lignes*], there are almost no truths we always agree upon, and still fewer objects of pleasure we do not every hour change our mind about, I do not know whether it is possible to give fixed rules for making discourse conform to the inconstancy of our caprices. (Pascal, 1952, p. 442 [1985, p. 89])

At this point Pascal makes geometry a source of certainty in firm rules to be opposed to the variability of personal inclinations and passions. Elsewhere geometry is both affirmed as certain and as uncertain in its basic principles:

None of these truths can be demonstrated, and yet they are the foundations and the principles of geometry. But since the cause that makes them incapable of demonstration is not their obscurity but on the contrary their extreme evidence, this lack of proof is not a defect but rather a perfection. (Pascal, 1952, p. 435 [1985, p. 76-7])

The truths of geometry cannot be demonstrated at their most basic level, which is a sense of uncertainty and a confirmation of the Cartesian search for clear and simple ideas, 'an extreme clarity [*extrême clarté naturelle*], which is more powerfully convincing to reason than any discourse [*que le discours*]' (Pascal, 1952, p. 435 [1985, p. 77]). Geometry stands above discourse defined by the uncertainty and changing object of human passions. This duality was expressed earlier in the Essay through reference to two poles of geometry:

And because this art consists of two main parts, the proving of each proposition individually and the arranging of all the propositions in the best order, my treatise will have two sections, of which one will contain the rules of geometrical demonstrations, that is scientific and perfect demonstrations [*méthodiques et parfaites*], and the other will contain the rules of geometrical order, that is scientific and complete order [*méthodique et accompli*]. (Pascal, 1952, p. 430 [1985, p. 67])

The first pole is that of geometrical demonstrative method, which is methodical and perfect, it proves each particular proposition and contains the rules concerning the conduct of geometrical demonstrations. The second is that of the art of persuasion, which disposes all propositions in the best order, and contains the rules of geometrical order which is methodical and completely perfect. The development of the essay seems in conflict with this duality, which allows the second pole to be the comprehensive frame of the first. Later remarks suggest that the second pole is necessarily infected with the imperfect and unmethodical and that while geometrical propositions can be demonstrated, the whole system cannot and there is no demonstrable frame.

The underlying problems of creating a frame, or demonstration of the whole system, is defined when Pascal refers to the problem of basic concepts:

We cannot undertake to define being without falling into this absurdity, for we cannot define any word without beginning with these words *it is*, either explicitly or implicitly. Therefore to define being we would have to say *it is*, and thus use the word defined in the definition. (Pascal, 1952, p. 432 [1985, p. 71-72])

Geometrical method works through definitions of terms, which at their most basic cannot be defined any further. In 'Of the Spirit of Geometry', Pascal looks at the paradoxes of geometrical method without questioning the certainty of geometry as geometry:

Accordingly, as we proceed ever further with our investigations, we come of necessity to primitive words which can no longer be defined and to principles so clear that it is no longer possible to find others more clear for their demonstration. Whence it is apparent that men are naturally and inevitably powerless to deal with any science whatsoever in an absolutely perfect order. But it does not

follow that we should abandon every kind of order. For there is one, the order of geometry, which is indeed inferior in that it is less convincing but not in that it is less certain. It does not define everything and does not prove everything, and in this it yields to the perfect order. But it assumes only things clear and invariant by the natural light, and that it is why it is perfectly true, nature supporting it in default of discourse. (Pascal, 1952, p. 431-432 [1985, p. 70-1])

There is no possibility of discourse, so that geometry which lacks the total demonstration of its system promised by the art of persuasion has to rest on something else. This question arises because of the most basic terms of geometry which cannot be defined.

The problem as stated by Pascal is defined by Augustine with regard to time in *Confessions* (Augustine, 1970) Book XI, [XIV] 17, and is expressed by Pascal in relation to the general problem of essential nature:

Not that all men have the same idea of the essence of those things I say it is impossible and useless to define. For, to take an example, time is of this kind. Who can define it? [...] For definitions are made only to point out the things named and not to reveal their nature. (Pascal, 1952, p. 432-433 [1985, p. 72])

The kind of paradox that strikes Pascal is a product of attempting to find a single definition for every word as a discrete entity; and to follow one formal idea of what determinate meaning is: syllogism or logic. The passage from Augustine, which Pascal must have been thinking of, is mentioned by Wittgenstein in *Philosophical Investigations* (Wittgenstein, 1958) §§ 89-90. In § 90, Wittgenstein approaches the paradox by suggesting, that language can be a place for the study of a priori possibilities. For Wittgenstein there is nothing preceding language which can uncover what is necessary for there to be phenomena. The kinds of statements we can make are the kinds of conditions there are for phenomena. There is no single essence for any named phenomena, but there are naturally essential aspects of a phenomenon uncovered by the kind of statements that can be made about it. These questions of possible conditions; and equivocation between concrete expression and ideal objects will come up in Derrida's discussion of Husserl on geometry.

Pascal cannot accept that language could have such a role, though there is the shared presupposition of a natural ground to basic definitions, rules and terms which cannot be explained any further:

This is perfectly illustrated by geometry. It does not define space, time, motion, number, equality, or their like, which are very numerous, because these terms point out so naturally the things they signify to those who understand the language that whatever clarification we might want to give would contribute more obscurity than instruction. (Pascal, 1952, p. 432 [1985, p. 71])

Failure to follow the limits of explanation leads to the Augustinian problem of the definition of time, which Pascal suggests necessarily follow from the limits of language:

[T]here will be two things called by the name *time*: one is what everybody naturally understands by this word and what all who speak our language name with this term; the other will be the notion of a created thing, for this too will be called by that name in accordance with the new definition. (Pascal, 1952, p. 433 [1985, p. 72-73])

The questions of geometry and time are linked by Pascal. Geometry refers to space and movement (along with number), and time also refers to movement, as the measurement of movement in space must refer to time, in the quickness or slowness of movement: 'Even time is included there too, for motion and time are correlative (fast and slow, which differentiate motion, having a necessary reference to time)' (Pascal, 1952, p. 434 [1985, p. 75]). The undefinability and uniqueness of geometrical terms leads Pascal to condemn logic. There is no possibility of turning geometry into a general method of reason, and there is no possibility of establishing anything outside geometry with the same perfection: 'The method of avoiding error is sought by everyone. The logicians profess to guide us to it, only the geometers reach it, and outside of their science and its imitatos so there are no true demonstrations' (Pascal, 1952, p. 445 [1985, p. 94]). These comments seem like a rejoinder not only to Descartes but to Pascal's Port-Royal associates Arnauld and Nicole for whom the questions of being, time and so and referred to through the Cartesian notion of clear and distinct self-evident ideas. Nevertheless, the Port-Royal Logic does refer to the problems in defining time, which Pascal takes in another direction:

Words such as "being," "thought," "extension," "equality," "duration," or "time," and similar ones are of this sort. For even though some people obscure the idea of time by forming various propositions about it which they

call definitions – such as that time is the measure of motion according to before and after – they do not attend to this definition when they hear time mentioned, nor do they conceive anything beyond what [*naturellement*] everyone else conceives about it. (Arnauld and Nicole, 1996, p.64 [1970, p. 125-126])

For Arnauld and Nicole time and other basic concepts are self-evident and this is confirmed by the consistency of natural usage. The question of what would define time, being and so on is accounted for in logic by presuming that such terms are the self-evident basis of reasoning and that this applies in natural discourse as much as in logically formed argument. Pascal suggests the philosophical implications that follow from looking for an origin and a definition to basic terms, and the relation of their ideality to the necessarily empirical nature of the actual usage of signs⁵.

IV. Derrida: The Ideal and the Factual

Derrida discusses the impossibility of the origin in *Introduction à L'origine de la géométrie* (Derrida, 1962)⁶. In this Derrida discusses the problems which Husserl has investigated in establishing the grounds of geometry. Husserl's essay is characterised by the ambivalence of attempting to root the ideal objects of science in the Lifeworld. The essential oppositions within the constitution of a concept, which Derrida has continued to explore, are referred to through the status of the mathematical object in Husserl's philosophy:

The mathematical object seems to be the privileged example and most permanent thread guiding Husserl's reflection [*réflexion husserlienne*]. This is because the mathematical object is *ideal*. Its being is thoroughly transparent and exhausted by its phenomenality. Absolutely objective, i.e., totally rid of empirical subjectivity, it nevertheless is only what it appears to be. Therefore, it is always already *reduced* to its phenomenal sense, and its being is, from the outset, to be an object [*être-objet*] for a pure consciousness. (Derrida, 1989, p. 27 [1962, p. 6])

Implicit in these remarks is an indication of the equivocation in Husserl between the absolute objectivity of geometry and its root in subjective consciousness. Husserl's consciousness is pure and abstracted from the question of the reality of phenomena, developing Descartes' notion of an ideal rational consciousness. As consciousness, it must necessarily

nevertheless reduce objects to objects of consciousness depriving them of their objectivity, while assuming the possibility of evidence in which there is a direct grasp of states of affairs. If there is a direct grasps of a state of affairs in the origin of the ideal, the ideal must refer to what is empirical and singular. Derrida elaborates on this equivocation with regard to the necessary origin of ideal signification, and non-empirical singularities in empirical situations:

[S]ince certain nonempirical singularities, as Husserl says, can be considered in certain respects as the most concrete and most independent, since the singularities of origins are those of instituting acts [*actes fondateurs*] of every ideal signification and, in particular, of the possibilities of science and of philosophy, then their history is the most independent, the most concrete, and the first of sciences. (Derrida, 1989, p. 49 [1962, p. 34])

Philosophy and science have a history originating necessarily in empirical singularities. Necessary concepts of geometry must have a beginning in a moment of experience. The possibility of science is that of the founding acts which are concrete possibilities. The singularity in the foundation of geometry must itself mix the ideal and the empirical, must be a bridge between the experience of an object and the ideal nature of the object. That event is the 'first science' which establishes geometry and knowledge, but when understood in itself questions what first science is. Geometry as ideal object must be contaminated by the empirical event of its expression, which must be explained by words at some point; however self-evident its truths, the symbolism cannot be ostensive in such an absolute way as to exclude language. The spatio-temporal realm of the word leads to the nature of language:

But the word's degree of ideal Objectivity [*objectivité*] is only, we could say, *primary*. Only within a factio-historico language [*C'est à l'intérieur d'une langue factio-historique*] is the noun "*Löwe*" free, and therefore ideal, compared with its sensible, phonetic, or graphic incarnations. But it remains essentially tied, as a German word, to a real spatiotemporality; it remains interrelated in its very ideal Objectivity with the de facto existence of a given language and thus with the factual subjectivity of a certain speaking community. (Derrida, 1989, p. 70 [1962, p. 62])

There is an objective ideal in the world positing a reality beyond the empirical presence of the word, which cannot escape the concrete reality of the word. Its concrete reality is its place in the community of spoken language. Therefore the ideal signification of geometrical objectivity is rooted in culture and its history, threatening to relativise the ideal objects of geometry, so that there is no ideal, only an expression of cultural-linguistic perspective. However, Derrida suggests that Husserl uses language as the means to a transcendental basis for geometry according to phenomenological canons:

Attentiveness to the “fact” of language in which a juridical thought lets itself be transcribed, in which juridicalness would like to be completely transparent, is a return to factuality as the *de jure* character of the *de jure* itself [*comme droit du droit*]. It is a reduction of the reduction and opens the way to an infinite discursiveness. (Derrida, 1989, p. 70 fn [1962, p. 61 fn])

The representation of ideal objects in language must recognise that language is factual and that the ideal right which legislates for ideal objects, only has the ideal right in itself from its factual existence. The language which posits ideal objects can only do so as an empirical fact. It is transcendently impossible to eliminate the empirical from the ideal or the transcendental. The transcendental must reflect upon itself, and can only have transcendental conditions, to enable reflection on the empirical, on condition that it can be an empirical object itself. The existence conditions for the transcendental include its recognisability in experience (as Kant might say), in which the ideal and factual aspects of language are at play:

Thus, does Husserl not *come back* to language, culture, and history, all of which he reduced in order to have the pure possibility of truth emerge? [...] The paradox is that, without the apparent fall back into language and thereby into history, a fall would alienate the ideal purity of sense, sense would remain an empirical formation imprisoned as fact in a psychological subjectivity—in *the inventor’s head*. (Derrida, 1989, p. 76-77 [1962, p. 69-71])

There is a possibility of psychological reduction of sense into ideas in the head of the inventor of geometry. Psychologisation would deny the existence of ideal objects, and is resisted in order to assert the objectivity of such objects. The factual aspect of language, and the origin of ideal objects, is necessary to prevent psychologisation as it shows that ideal objects have an

origin outside subjective ideas. The historicisation of ideal geometrical objects, the admission that they are products of a speech community, serves as the route to the re-idealisation of geometrical objects, through phenomenology which has superseded earlier philosophical attempts to ground geometry. The production of geometrical objects has become the exemplary form of transcendental phenomenology, in the investigation of the necessary conditions of experience, which leaves the dilemma of the relation between the ideal and the factual in speech. This still leaves two areas of ambivalence: between individual psychology and the transcendental ego; between geometry as a region of knowledge and phenomenology as absolute knowledge.

Derrida expresses the Husserlian transformation of a speech community into phenomenological ideals, when he notes that the discussion of which language is reliable establishes a goal, in the *eidós/essence*:

The notion of (adult normality's) privilege denotes here a *telos*' meddling beforehand [*la pré-ingérence*] in the *eidós*. [...] In proportion to our advancement in the spiritual world [*À mesure que l'on s'éleve dans le monde d'esprit*] and then in history, the *eidós* ceases to be an essence in order to become a norm, and the concept of horizon is progressively substituted for that of structure and essence. (Derrida, 1989, p. 80 [1962, p. 74-75])

The ideal goal is necessarily present in the ideal form, as ideal form is the presence of an ideal goal in experience. That brings rules into forms, so that the ideal form is replaced by the following of ideal rules. The ideal form itself develops in the mind and world of ideas, so that it exists as an ideal rule for ideas rather than ideal structure and essence. Derrida sees in Husserl an ideal universal language, always translatable because before, and outside, any particular language. That is the language Husserl uses for constituting mathematical objects: 'But preculturally *pure nature* is always [*la pure nature pré-culturelle est toujours déjà*] buried. So as the ultimate possibility for communication, it is a kind of inaccessible infra-ideal' (Derrida, 1989, p. 81-82 [1962, p. 77]). Here nature refers to ideal objects and culture to language, which constitutes the ideal objects of language as always infected by the empirical aspects of language in culture and history. The opposition of the ideal and the empirical discussed in this way, leads to the idea of underlying ideals, which develops the Kantian notion of ideals, with reference to necessary contradictions in the positing of purely ideal or empirical objects. All objects in our language and ideas are constituted by a ground ideal which ungrounds itself in the necessity of opposition, contradiction and paradox.

The question arises in Wittgenstein's philosophy of maths of how to relate usage with abstract rules. In *Remarks on the Foundations of Mathematics* (Wittgenstein, 1956), it is suggested that the truth of a rule cannot be detached from its success in applications to usage. §4 (Wittgenstein, 1956, p. 4), for example, discusses this in relation to counting. The point at which mathematics is grounded through usage, and possible usage, in language, is the point where the question appears of the relation between the ideal object and its usage in acts. There is a necessary impossibility of separating possible usages in concrete situations from the ideal rules and objects of mathematics⁷.

Derrida discerns an equivocation in Husserl between transcendental and empirical, ideal and factual, which Derrida transforms into equivocation between the poles of phenomenology and the cultural, which is further transformed into the poles of the decidable and the undecidable:

And it is within the [geometrico-mathematical] horizon that Husserl here questions [*interroge*] that the preoccupation with decidability belongs [*appartiennent les préoccupations de décidabilité elles-mêmes*]. In its very negativity, the notion of the un-decidable—apart from the fact that it only has such a sense by some irreducible reference to the ideal of decidability—also retains a mathematical value derived from some unique source of value vaster [*plus profonde*] than the project of *definiteness* itself. This whole debate is only understandable within something like *the* geometrical or mathematical science [*la géométrie ou la mathématique*], whose unity is still *to come* on the basis of what is announced in its origin. (Derrida, 1989, p. 53 [1962, p. 39-40])

Husserl is operating in the equivocation between the source of value in mathematics and the definiteness or decidability in mathematics, which seems absolutely necessary to mathematics. The possibility of mathematical value though rests on a goal implicit in the origin, but which can never completely arrive. The goal of mathematics, from its origin, is the transcendental goal of ideal objects and definite rules, reproducing decidability. Since the origin itself is always caught in the empirical, it cannot be purely transcendental and neither can what comes from it. To state the transcendental goal of definiteness is to necessarily be in a ground before definiteness, which could be its infra-ideal. That ground is the necessity of equivocation in the origin.

The equivocation is the fundamental operation in Derrida's philosophy, and is rooted by Derrida in Kant's notion of the Idea because of the inaccessibility of its univocality (Derrida, 1989, p. 104-105 [1962, p. 107]). The univocality of the Kantian Idea (Kant, 1933, A310/B367 – A340/B398) is accompanied by its necessary place as a concept of reason in the experience of an object and the synthesis of concepts and intuitions necessary for there to be experience. There is a structural equivocation of Husserl's phenomenological reduction to pure conditions of experience as transcendental ideas, and the reduction of ideas in the later Husserl to the Lifeworld of culture, history and experience; or to the *Sacherverhalt*, the state-of-affairs in-itself, the facts directly grasped, in the earlier Husserl. This is a continuation of the investigation of relations between ideas or concepts in Kant and intuition, and the possible paradoxes which rest in them. In Derrida the paradoxes are given a constitutive and irreducible place. Derrida, himself, may be caught in the conflict between infra-ideals, a deep structure of necessary contradictions, and experience or the concepts of experience⁸. Pascal's exploration of the origin of concepts in geometry anticipated this study of necessary incompleteness and contradiction.⁹

V. Existence and Predicates

Equivocation, contradiction and philosophical oppositions constitute Derrida's philosophy. The structure of irreducible equivocation appears in Pascal, where the rules of geometry have a foundation which is natural clarity or the principles God gives through the heart. There is no way of organising the principles of geometry according to reason, because there are no sure rules of method outside geometry. Outside geometry there is only the uncertainty of language which can never express an idea univocally. The force of opposition emerges because it is not possible to move beyond the opposition between 'being' and 'is', which are the same but opposed. The univocal concept contains opposition, because to make the concept explicable is to destroy its univocality and emerge in contradiction, as no first term can justify any claim to be the first term.

The status of 'is' and 'being' in philosophy is examined by Derrida in 'Le supplément de copule' (Derrida, 1982, p. 175-206 [1972a, p. 209-246]). The copula is always supplemented because it is never 'just a word'. It raises the question of what it is to predicate something of something and what the categories are that order those predicates. For Pascal the problem had arisen that discourse or ordinary language does not provide an adequate ground for basic truths. Axiomatic truths are beyond definition in concepts, so that Pascal is exploring the problem of how reality and language relate. Derrida gives a definition of this problem in 'The Supplement of the Copula', with

reference to metaphysical reality in Aristotle and language rules in Benveniste: 'But as it happens, the category of the category is but a systematic setting in place of the pretension to an exterior of language [*cette prétention au-dehors de la langue*], making it both language and thought because language at the site [*la langue est interrogée*] where the signification "Being" is produced' (Derrida, 1982, p. 183 [1972a, p. 219]). Discussion of definitions and concepts or propositions must lead us into the necessity of the definition of definition, the concept of concept, and the proposition of what a proposition is. Since these are questions of essence or definition their answer depends on there being a definition, concept or proposition of what Being is, what it is to be something, what the copula is. It is possible to distinguish 'Is' as copula from the 'Is' of existence, but not to deny that the question of attribution in the copula can only be defined by defining what it is that can have attributes and what an attribute is. That is the question of what it is to have being, to exist, as these are the conditions of what it is to have attributes¹⁰.

The differentiation within is has been of great significance in philosophy, and since Kant at least there has been a strong urge to expel 'Is' as existence from predication as attribution (*1st Critique* [Kant, 1933], p. A598/B626). The mere copula does not attribute anything, the 'is' of existence is not a real predicate. It is merely the positing of something and a necessary connective in judgement. Definitions of existence and predication require rules for the different uses of 'is'. The context of this is to argue against the ontological proof of the existence of God. God's existence cannot be a predicate like other predicates of a posited necessary being, the 'is' can only refer to the act of positing. The suspicion that means of naming, and predication, in ordinary language are liable to lead to the presupposition of metaphysical entities has continued since then. Frege in 'Function and Concept', 'Sense and Reference', 'On Concept and Object', and 'Logical Investigations' (all in Frege, 1984); Russell in 'On Denoting' (Russell, 1905); Quine in 'On What There Is' (Quine, 1980, p. 1-19) represent important points in the formalisation of propositions in order to avoid apparently excessive metaphysical commitments. Furthermore, they apparently avoid confusion about the copula and existence in rules which strictly define the use of signs for existence and signs for predication. Wittgenstein summarises the benefits of 'logical grammar' in distinguishing between different forms of 'is' referring to existence and properties, in *Tractatus Logico-Philosophicus* 3.323-3.325 (Wittgenstein, 1922, p. 54/55). This will, however, necessarily implicate logical grammar or formal syntax with metaphysical assumptions. According to Quine, '[t]o be is to be the value of a variable' (Quine, 1984, p. 15), which leaves us with the impossibility of separating the question of what a category is from what can be. The questions of linguistic categorisation and metaphysics are both necessarily opposed and necessarily identical. The metaphysical object

cannot be separated from linguistic symbolisation and use, just as Derrida suggests for the ideal objects of geometry. There is no escape from the dilemma in Pascal that the need to define metaphysical categories to make them rational, deprives them of the absoluteness of the metaphysical categorical, beginning with Being: "Without the transcategoriality of "to be," which envelops everything", the transition between categories of language and categories of thought would not have been possible, either in one sense or the other, for Aristotle or for Benveniste. (Derrida, 1982, p. 197 [1972a, p. 236]).

Metaphysics, Derrida suggests, cannot provide a foundation for the origin of Being or Time or Geometry. The idealisation of a concept of object is not its definition or ground. This does not mean that metaphysical questions, or the questions of ideal objects, can be pragmatically reduced to the empirical conditions of objects. Linguistics will not show what the category of categories is, and the study of the historical conditions of ideal objects will not show what they are. Transcendence cannot be reduced to the empirical and the empirical occurrences of the signs of transcendental objects, including being itself, cannot be negated by transcendence. Transcendental objects cannot enter discourse, even logic and deductive systems, without the question arising of defining what their place is and how they are defined. Even if the question is evaded by engaging in formal deductions or the application of discourse in practice, there will still be the question of why they are used and what they mean. Derrida here seems to recreate the Kantian divide between the blindness of intuitions and the emptiness of concepts, which Kant synthesises through transcendental unity. Derrida's 'synthesis' is the deconstructive moment where the conditions of the transcendental or empirical object are the conditions of its opposite, and therefore the conditions of its own impossibility. The conditions of the knowable transcendental object include an empirical origin, and the conditions of the empirical object include the transcendental unity of the instances of the object. There can be no transcendental centre to organise the concepts of time or being or geometry, as the centre is caught between the necessity to permeate the whole system of concepts in every instance with transcendental unity, and to be the centre which organises the non-transcendental.

Derrida portrays a philosophy that always demonstrates inevitable contradictions in the conditions of any concept. In demonstrating the inevitable contradictions of reason taken to the extreme, Derrida is in the company of Kant and Wittgenstein, though unlike them he suggests the contradictory nature of absolute concepts is present in all usage. What Pascal calls reasons of the heart cannot surmount the contradictions of our conceptualisations of the universe, but only confirm that pure sense and pure reason are inadequate as there can only be an origin to our concepts of

objects in contradiction. Derrida transforms the possible dogmatism of the reasons of the heart, the unquestionable assertion of the metaphysically necessary concepts of science, into the power of contradiction. It is the deconstructive production, what can establish contradictory concepts including the contradiction between concept and object of experience, which makes conceptualisation, experience and theorising possible and retains Pascal's anxiety at the presence of contradiction in the representation of the universe in our discourse or ideas.

Bibliography

Arnauld, Antoine and Pierre Nicole, *La logique ou l'art de penser*, Paris, Flammarion, 1970.

———, *Logic or The Art of Thinking*, tr. Jill Vance Burucker, Cambridge, Cambridge University Press, 1996.

Augustine, St., *Confessions*, trans. E.B. Pusey, New York, Dutton, 1970.

Benjamin, Andrew, *The Plural Event: Descartes, Hegel, Heidegger*, Routledge, London, 1993.

Bennington, Geoffrey, *Legislations: The Politics of Deconstruction*, London, Verso, 1994.

———, 'La frontière infranchissable', in *Le passage des frontières: Autour du travail de Jacques Derrida*, Paris, Galilée, 1994, p. 69-81.

Bennington, Geoffrey and Jacques Derrida, *Jacques Derrida*, Paris, Seuil, 1991.

Bold, Stephen C., *Pascal Geometer: Discovery and Invention in Seventeenth-Century France*, Geneva, Droz, 1996.

———, *Jacques Derrida*, trans. Geoffrey Bennington, Chicago, University of Chicago Press, 1993.

De Man, Paul, *Aesthetic Ideology*, ed. Andrzej Warminski, Minneapolis, University of Minnesota Press, 1996.

Derrida, Jacques, *Edmund Husserl's L'origine de la géométrie*, trans. and introduction by Jacques Derrida, Paris, Press Universitaires de France, 1962.

———, *De la grammatologie*, Paris, Minuit, 1967.

———, *La voix et le phénomène*, Paris, Press Universitaire de France, 1967a.

———, *La dissémination*, Paris, Seuil, 1972.

———, *Marges de la philosophie*, Paris, Minuit, 1972a.

———, *Speech and Phenomena*, trans. David Allison, Evanston, Northwestern University Press, 1973.

———, *Of Grammatology*, trans. Gayatri Chakravorty Spivak, Baltimore, Johns Hopkins University Press, 1976.

———, *Writing and Difference*, trans. Alan Bass, London, Routledge & Kegan Paul, 1978.

———, *Dissemination*, trans. Barbara Johnson, Chicago, University of Chicago Press, 1981.

———, *Margins of Philosophy*, trans. Alan Bass, Chicago, University of Chicago Press, 1982.

———, 'Des Tours de Babel', in *Difference in Translation*, ed. Joseph F. Graham, Ithaca, Cornell University Press, 1985, p. 165-207.

———, *An Introduction to Edmund Husserl's Origin of Geometry*, trans. John P. Leavey, Lincoln, University of Nebraska Press, 1989.

———, 'Force de loi/Force of Law', *Cardozo Law Review*, 11 (1990), p. 919-1045.

Derrida, Jacques and Gianni Vattimo (eds.), *Religion*, Cambridge, Polity Press, 1998.

Evans, J. Claude, *Strategies of Deconstruction: Derrida and the Myth of the Voice*, Minneapolis, University of Minnesota Press, 1991.

Frege Gottlob, *Collected Papers on Mathematics, Logic, and Philosophy*, ed. Brian McGuinness, trans. Max Black *et al.*, Oxford, Blackwell, 1984.

Gasché, Rodolphe, *The Tain of the Mirror: Derrida and the Philosophy of Reflection*, Cambridge, Mass., Harvard University Press, 1986.

———, *Inventions of Difference: On Jacques Derrida*, Cambridge, Mass., Harvard University Press, 1994.

Goldman, Lucien, *Le dieu caché: Étude sur la vision tragique dans les Pensées de Pascal et dans le théâtre de Racine*, Paris, Gallimard, 1955.

———, *The Hidden God: A Study of Tragic Vision in the Pensées of Pascal and the Tragedies of Racine*, tr. Philip Thody, London, Routledge, 1964.

Kant, Immanuel, *Critique of Pure Reason*, trans. Norman Kemp Smith, London, MacMillan, 1933.

Marin, Louis, *La critique du discours: Sur la "Logique de Port-Royal" et les "Pensées" de Pascal*, Paris, Minuit, 1975.

Natoli, Charles, 'Proof in Pascal's *Pensées*: Reason as Rhetoric', in *Meaning, Structure and History in the Pensées of Pascal*, ed. David Wetsel, Paris, Biblio, 1990.

Pascal, Blaise, *Pensées*, Paris, Nelson, 1946.

———, *The Provincial Letters, Pensées, Scientific Treatises*, Chicago, Encyclopaedia Britannica, 1952.

———, *Pensées*, trans. A.J. Krailshimer, Harmondsworth, Penguin, 1966.

———, *De l'esprit géométrique. Ecrits sur la Grâce et autres textes*, ed. André Clair, Paris, Flammarion, 1985.

Quine, William, *From a Logical Point of View: Nine Logico-Philosophical Essays*, Cambridge, Mass., Harvard University Press, 1980.

Russell, Bertrand, 'On Denoting', *Mind*, 14 (1905), p. 479-493.

Staten, Henry, *Wittgenstein and Derrida*, Lincoln, University of Nebraska Press, 1984.

Wittgenstein, Ludwig, *Tractatus Logico-Philosophicus*, German text with translation, trans. C.K. Ogden, London, Routledge, 1922.

———, *Remarks on the Foundations of Mathematics [Bemerkungen über die Grundlagen der Mathematik with translation]*, trans. G.E.M. Anscombe, Oxford, Blackwells, 1956.

———, *Philosophical Investigations [Philosophische Untersuchungen with translation]*, trans. G.E.M. Anscombe, Oxford, Blackwell, 1958.

Notes

- 1 See 'Force and Signification' (Derrida, 1978, p. 3-30) [*Force et signification*, Derrida, 1967, p. 9-49].
- 2 There is some discussion of this in de Man, 'Pascal's Allegory of Persuasion' (de Man, 1996, p. 51-69) referring to cognition and performance, disjunction and dependence. See also Bennington's response in 'Aberrations: de Man (and) the Machine', *Legislations* (Bennington, 1994, p. 137-151). 'The Perfect Cheat: Locke and Empiricism's Rhetoric' (Bennington, 1994, p. 119-136) looks at the related issue of the inescapability of impure language, 'rhetoric', in the presentation of the 'idea' of 'pure' experience'.
- 3 On fragmentary style in Pascal, see: *Portraits of Thought: Knowledge, Methods and Styles in Pascal* (Norman, 1988).
- 4 On Pascal and Kant, see Goldman's *The Hidden God* (Goldman, 1964) [*Le Dieu caché* (Goldman, 1955), particularly Chapter XII. on Epistemology.
- 5 On Pascal, Port-Royal and Seventeenth Century Philosophy from a perspective influenced by Derrida, see Marin's *La critique du discours*, particularly chapter 12 'Pascal et la théorie du discours' (Marin, 1975, p. 365-419). Benjamin's *The Plural Event* (Benjamin, 1993) discusses this area with reference Marin in 'Intermezzo: conflict naming' (Benjamin, 1993, p. 60-82). There is some useful discussion in Bold's *Pascal Geometer* (Bold, 1996), but this does not notice how much *Pensées* is already in 'De l'esprit géométrique'. See also, Natoli's 'Proof in Pascal's *Pensées*' (Natoli, 1990).
- 6 On Derrida on Husserl, see Bennington and Derrida, *Jacques Derrida* section on Husserl (Bennington and Derrida, 1993, p. 64-70 [1991, p. 64-70). Also various points in Gasché, *The Tain of the Mirror* (Gasché, 1986) and *Inventions of Difference* (Gasché, 1994); Llewelyn, *Derrida on the Threshold of Sense*, particularly chapter 2 "Transcendental Phenomenological Semiology' (Llewelyn, 1986, p. 16-31). Various interpretations are collected in *Derrida and Phenomenology* (McKenna and Evans, 1995). A very critical discussion can be found in Evans' own *Strategies of Deconstruction* (Evans, 1991). Derrida develops his discussion of Husserl further in, *Speech and Phenomena* (Derrida, 1973 [Derrida, 1967a]).
- 7 On Wittgenstein and Derrida, see Staten *Wittgenstein and Derrida* (Staten, 1984), Chapter 1 focuses on Derrida and Husserl (Staten, 1984, p. 31-63). Also Bennington, 'La frontière infranchissable' (Bennington, 1994). Bennington's work on conceptual frontiers in Derrida and Wittgenstein will be extended in a forthcoming book to be published initially in French as *Des frontières*.

- 8 On 'Infrastructures' in Derrida, see Gasché, *The Tain of the Mirror* (Gasché, 1986). In particular the section on 'The Infrastructural Chain' (Gasché, 1986, p. 185-224). For a critical discussion of this approach to Derrida, see Bennington's 'Deconstruction and the Philosophers (The Very Idea)' (Bennington, 1994, p. 11-60). Gasché revisits this issue in *Inventions of Difference* (Gasché, 1994).
- 9 Hopkins' 'Husserl and Derrida on the Origin of Geometry' (McKenna and Evans, 1995, p. 43-60) suggests that Derrida confuses reflection on with repetition in Husserl, but himself misses the point by insisting on Husserl's *apparent* distinction.
- 10 The discussion of supplement and the origin of signification, in the relation between the metaphysical and the material, can be found in 'Part I: Writing Before the Letter' in Derrida, *Of Grammatology* (Derrida, 1976, p. 1-93 [Derrida, 1967, p. 9-142]). This is continued in relation to Plato in 'Play', section 9 of 'Plato's Pharmacy' in *Dissemination* (Derrida, 1981, p. 156-171 [1972, p. 195-213]).